

REMARKS

The present application has been amended to overcome the Examiner's rejections and to clarify the patentable features of the Applicants' invention. In particular, claims 1 and 20 have been amended in accordance with a suggestion made by the Examiner during an interview conducted on April 8, 2010. Reconsideration of the rejection of this application in view of the present amendment and the interview referenced above, is hereby requested.

The Applicants' and their attorney wish to thank Examiners Savani and McAllister for the courtesies extended during the April 8 interview. During the interview, independent claims 1, 5, 15, 20 and 27 were discussed, along with several dependent claims such as claims 10, 11, 12 and 32. Although no agreement was reached, it is believed that the Applicants' demonstrated that certain prior art was not applicable and would be removed as a basis for some rejections. The Examiners also indicated that further searching would be performed to determine whether more applicable prior art existed.

Turning first to claims 1 and 20, these claims have been amended to clarify the direction to which the gas/air mixture is deflected by the diffuser/reflector. It is believed that the language added to claims 1 and 20 is consistent with a suggestion made by Examiner Savani. In particular, claims 1 and 20 have been amended to clarify that the gas/air mixture is directed in a direction that is generally transverse to

an axis of the inlet conduit and, is directed generally toward a sidewall of the lower housing (claim 1) or towards a sidewall of a burner body (claim 20). It is believed that this clarifying amendment distinguishes claims 1 and 20 from the prior art because the prior art does not teach or suggest a diffuser/reflector that performs this function. Claims 4, 11, 12, 13, 46 and 48 depend directly or indirectly from claim 1 and should also be allowed.

Dependent claims 11-12 were specifically discussed with the Examiner. These claims cover specific configurations of a discharge end of the inlet conduit which extends into an interior region of the burner body. In rejecting these claims, the Examiner cited the Japanese reference to Kaneko (JP 60175913). As pointed out to the Examiners, this Japanese reference does not show an inlet conduit having a discharge end cut at an angle. The angle shown in the Japanese reference is an angled wall formed in the burner body, not an inlet conduit. It is believed that the features, set forth in claims 11 and 12, are clearly patentable in view of the prior art.

Claim 5 was extensively discussed during the interview. As pointed out to the Examiners the Johnson patent does not disclose or suggest a combustion surface as recited in claim 5. The "grid" in Johnson, which is indicated by the reference character 14, is not a combustion surface. It is simply an infrared grid that radiates heat. The gas/air mixture does not burn on the grid. The function of the grid is clearly described at column 6, lines 13-18. The actual combustion surface in

Johnson is defined by the laminate 20 and outer surface 21 and is fully described at column 6, lines 33-46. It is believed that the Examiners agree that the Johnson patent does not disclose or suggest a combustion surface as set forth in claim 5. Accordingly, claim 5 is patentable in view of the cited prior art. Claims 6-10, 14 and 49 depend directly or indirectly from claim 5 and should also be allowed.

Claim 10 was specifically discussed with the Examiners and it was pointed out that the cited prior art does not disclose or even remotely suggest the claimed structure for capturing an end cap between a pair of upset ridges formed on an inlet tube. As discussed, it is more typical to have a tube attached to an end cap by welding. It should also be noted here that claim 16, which depends from claim 10, further claims that the end cap has an axial flange around the aperture that is captured between the pair of upset ridges formed on the inlet tube. This structure, which insures a tight seal between the inlet tube and the end cap, is not shown or suggested in any of the prior art cited. Claims 10 and 16 are clearly patentable in view of the prior art.

Claim 15 claims a pre-mix gas burner, which, among other features, has a combustion surface attached to a lower housing and an inlet conduit which supplies at least 100% of the combustion air needed for combustion. As discussed with the Examiners, the McCall and Schutte are not pre-mixed gas burners having an inlet conduit that supplies at least 100% of the combustion air. The McCall burner is a

conventional water heater burner that supplies gas to the burner through a conduit (not a gas/air mixture) and relies heavily on secondary air to support combustion. Similarly, the Schutte burner also requires secondary air to support combustion, as discussed at column 2, lines 63-68.

Moreover, claim 15 also recites an access door for closing off the access opening; the door is secured to an inlet end of the inlet conduit. The inlet end includes an upset ridge that abuts an inside surface of the door and an outwardly extending flair that abutably engages an outside surface of the door, whereby the door is secured to the inlet conduit. Although McCall shows a conduit extending through a door member, the conduit is not an inlet conduit for delivering a gas/air mixture. The conduit of McCall is simply a gas supply line. More importantly, the gas supply conduit shown in McCall is not attached to the door member using an upset ridge and an outwardly extending flare. Accordingly, claim 15 should be allowed. Claims 17-19 depend directly or indirectly from claim 15 and should also be allowed.

Claim 27, which was rejected on the combination of the McCall and Schutte patents, was also discussed during the interview. Among other features, this claim recites a bulkhead access door for closing off the access opening and that has a region that defines a mounting location to which the inlet conduit is secured. This mounting location has a predetermined profile that corresponds to the inlet end of the inlet conduit but that is unrelated to a radius of the access opening. None of the prior

art even remotely suggests this feature. As explained to the Examiners, this feature enables a manufacturer to utilize the same inlet conduit components that are attached to the access door for a range of water heater sizes. In the past, components attached to the access door would have to be specifically configured to accommodate the radius of the outer wall of the water heater, since the access door generally has a radius consistent with the radius of the overall water heater sidewall. By creating a region on an access door that has a profile unrelated to the radius of the access opening, the same inlet conduit/burner components can be used in water heaters of different sizes, thus decreasing manufacturing costs. This feature is not shown or suggested in any of the prior art and, therefore, claim 27 should be allowed. Claims 28-33 depend directly or indirectly from claim 27 and should also be allowed.

In view of the above amendment and discussion, it is respectfully submitted that the claims in this application are patentably distinct from the prior art and each from the other and this application is in condition for allowance. Prompt notice to that effect is earnestly requested.

Please charge any deficiency or credit any overpayment in the fees for this
amendment to our Deposit Account No. 20-0090.

Respectfully submitted,

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